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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,177

06/23/2006

Yuichi Shibazaki

2281.2.21

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21552 7590 07/10/2008

MADSON & AUSTIN  
15 WEST SOUTH TEMPLE  
SUITE 900  
SALT LAKE CITY, UT 84101

EXAMINER

JONES, JAMES

ART UNIT

PAPER NUMBER

2873

MAIL DATE

DELIVERY MODE

07/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,177	<b>Applicant(s)</b> SHIBAZAKI, YUICHI	
	<b>Examiner</b> JAMES C. JONES	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-17 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 14, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/23/2006 &amp; 10/24/2006</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 6/23/2006 and 10/24/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13, 15-17, and 20-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Omura et al (20040070852) hereafter '852.

'852 discloses the limitations therein including the following:

Regarding claims 1 and 21 '852 discloses an optical element holding device for holding an optical element, the optical element holding device (fig. 12b, 14a, 14b) comprising: a frame member; a holding member (14a, 14b), arranged in the frame member and configured to hold the optical element (14a, 14b); a displacement portion configured to be displaced in a direction intersecting with an optical axis of the optical element by a driving force applied from outside the frame member (fig. 14a, 14b, par. [0153]-[0162]); and a transmission portion configured to transmit displacement of the displacement portion to the holding member, wherein the transmission portion displaces the holding member in a direction substantially parallel to the optical axis of the optical element (fig. 14a, 14b).

Regarding claim 2 '852 discloses the optical element holding device according to claim 1, wherein the displacement portion is displaced within a plane that is orthogonal to the optical axis of the optical element (fig. 14a, 14b, par. [0109]-[0110][0153]).

Regarding claim 3 '852 discloses the optical element holding device according to claim 1, further comprising: a driving member, attached to the frame member and configured to generate the driving force, wherein the driving member urges the displacement portion in a direction intersecting with the optical axis of the optical element (fig. 6, 14a, 14b, par. [0109]-[0110][0152]-[0166]).

Regarding claim 4 '852 discloses the optical element holding device according to claim 1, further comprising: a driving member, attached to the frame member and configured to generate the driving force, wherein the frame member is annular and has

a center, and the driving member urges the displacement portion toward the center of the frame member (par. [0047][0148][0153]-[0162]).

Regarding claim 5 '852 discloses the optical element holding device according to claim 3, wherein the driving member includes: a driving element (fig. 14a, 14b); and a housing, connected to the displacement portion and configured to accommodate the driving element (14a, 14b).

Regarding claim 6 '852 discloses the optical element holding device according to claim 5, wherein the housing includes a coupling portion configured to transmit a driving force generated by the driving element to the displacement portion 9fig. 13b, 14a, 14b).

Regarding claim 7 '852 discloses the optical element holding apparatus according to claim 3, wherein the driving member includes a rough adjustment mechanism that roughly adjusts the position of the holding member, and a fine movement mechanism that finely adjusts the position of the holding member (par. [0146]-[0156]).

Regarding claim 8 '852 discloses the optical element holding device according to claim 7, wherein the fine movement mechanism includes a piezoelectric element (par. [0161]).

Regarding claim 9 '852 discloses the optical element holding device according to claim 1, further comprising: a guiding portion configured to guide the displacement portion in a manner that the displacement portion is displaced in a limited direction (fig. 14a, 14b).

Regarding claim 10 '852 discloses the optical element holding device according

to claim 1, further comprising: an urging member, arranged between the displacement portion and the frame member, and configured to urge the displacement portion toward the frame member (fig. 14a, 14b).

Regarding claim 11 '852 discloses the optical element holding device according to claim 1, wherein the transmission portion is a rod having one end, connected to the holding member in a manner rotatable and tiltable in any direction, and another end, connected to the displacement portion in a manner rotatable and tiltable in any direction, with the one end and the other end of the rod being connected by an axis tilted relative to a direction in which the displacement portion is displaced (fig. 14a, 14b, par. [0161]-[0166]).

Regarding claim 12 '852 discloses the optical element holding device according to claim 11, wherein the displacement portion is one of three displacement portions that are arranged on the frame member, and the transmission portion is one of three transmission portions associated with the displacement portions, with each transmission portion including two rods connected to the associated displacement portion (par. [0161]-[0166]).

Regarding claim 13 '852 discloses the optical element holding device according to claim 1, further comprising: a vibration attenuating mechanism arranged between the frame member and the displacement portion and configured to attenuate vibration of the displacement portion generated by the driving force (par. [0131]).

Regarding claim 15 '852 discloses the optical element holding device according to claim 9, wherein at least two of the frame member, the displacement portion, the

guide portion, and the transmission portion are monolithically formed as a single structure body (fig. 14a, 14b).

Regarding claim 16 '852 discloses the optical element holding device according to claim 15, wherein the single structure body is formed through engraving machining and includes a connecting portion connecting the at least two of the frame member, the displacement portion, the guide portion, and the transmission portion to one another (fig. 14a, 14b).

Regarding claim 17 '852 discloses the optical element holding device according to claim 16, wherein the connecting portion is formed by a plurality of connecting portions connecting in a relatively movable manner the frame member and the guide portion, the displacement portion and the guide portion, the displacement portion and the transmission portion, and the transmission portion and the holding member (fig. 14a, 14b).

Regarding claim 20 '852 discloses the optical element holding device according to claim 1, further comprising: a seal configured to isolate an inner space of the frame member from the outer side of the frame member and to hermetically seal the inner space of the frame member (fig. 14b).

Regarding claim 22 '852 discloses the barrel according to claim 21, wherein the optical element is one of a plurality of optical elements constituting a projection optical system configured to project an image of a predetermined pattern formed on a mask onto a substrate (fig. 8).

Regarding claim 23 '852 discloses an exposure apparatus for exposing an image

of a predetermined pattern onto a substrate, the exposure apparatus comprising: a mask on which the image of the predetermined pattern is formed; and the barrel according to claim 22 that transfers the image onto the substrate (abstract, par. [0001]).

Regarding claim 24 '852 discloses a device manufacturing method comprising: a lithography process including exposure performed with the exposure apparatus according to claim 23 (abstract, par. [0001]).

***Allowable Subject Matter***

Claims 14 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with respect to the allowable claims, none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, in reference to claim 14, none of the prior art either alone or in combination disclose or teach of the claimed optical element holding device specifically including, as the distinguishing features in combination with the other limitations the claimed "wherein the vibration attenuating mechanism includes a friction member fixed to one of the frame member and the displacement portion and slidably contacting the other one of the frame member and the displacement portion".

Regarding claim 18 (and its dependent), none of the prior art either alone or in combination disclose or teach of the claimed optical element holding device specifically including, as the distinguishing features in combination with the other limitations the



claimed "a displacement detection mechanism including a detector; arranged inside the frame member and configured to detect displacement of the holding member; and a monitoring portion arranged outside the frame member and configured to monitor a detection result of the detector from outside the frame member".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES C. JONES whose telephone number is (571)270-1278. The examiner can normally be reached on Monday thru Friday, 8 a.m. to 5 p.m. est. time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/584,177

Page 9

Art Unit: 2873

/James C. Jones/  
Examiner, Art Unit 2873  
6/26/2008

/Jordan M. Schwartz/  
Primary Examiner, Art Unit 2873